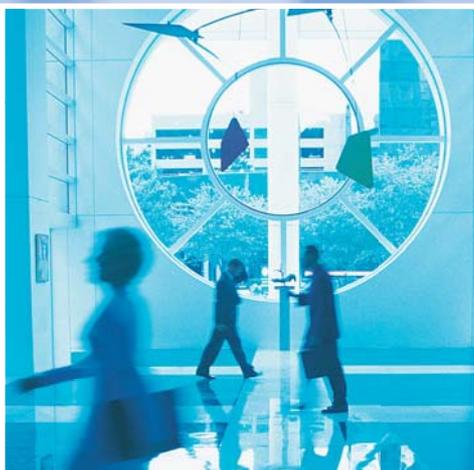# Field Processors

The distinguishing feature of Axess TMC's integrated Access Control and Security solutions is the total operational autonomy of the field processes in server-independent mode. This key characteristic is obtained by means of Field Processors, i.e. powerful and reliable, multi-functional devices designed for use in all applications where excellent reaction times and operational continuity are fundamental requirements.

SYSTEM RELIABILITY:
ON-LINE WITH OR WITHOUT SERVER

AXESS TMC's OrangeLink system is reliable due to the high operational autonomy of the individual hardware and software elements of which it is made up. Unlike in normal on-line systems, where the functions relating to the integration and interaction of different applications is centralised on concentrators or even on the system server, in OrangeLink these functions are performed by the Field Processors within a distributed intelligence architecture.
All controls applied to user authorisations, anti pass-back and reactions to events and alarms, are performed in server-independent mode thanks to the peer-to-peer communication capability of the Field Processors.

Peer-to-peer communication refers to the ability of a device to interact with other devices, without needing a higher level of hierarchy to co-ordinate activities. This ability makes it possible to deliver two key functions for a security system: multi-terminal checks (anti pass-back, minimum and maximum number of people present in an area, maximum dwell time in an area, etc.) and reactions to alarms (activation of sirens or lamps, lock/unlock of areas, emergency opening, etc.). The ability of Field Processors to communicate P2P also offers major advantages in Time & Attendance systems: the possibility of safeguarding stamping records by saving them on more than one Field Processor, the possibility of controlling logical sequences of stamping (accesses => presences => canteen), and control of minimum working and rest hours, to give a few examples.

ENTERPRISE INTRANET

Field processing

REAL-TIME
SERVER
INDEPENDENT

PEER-TO-PEER

MULTI-APPLICATION INTERACTION

The calculation power of the Field Processors makes it possible to condense into a single device the typical functions of the different installations that normally make up Access Control, Security and Time & Attendance systems; but more importantly, Field Processors are capable of enabling these applications to interact with others (Video Surveillance, Fire Detection, HVAC, etc.) in a fully integrated and interoperable manner.

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Field Processors
AXESS TMC

Here again, P2P communication makes it possible to create a highly reliable, server-independent system. For example, a Field Processor which detects a break-in at a door can send a direct command to the video surveillance system to automatically focus a PTZ camera on it; conversely, if a motion alarm is triggered by a camera, the system can react by locking all the access doors to the area.
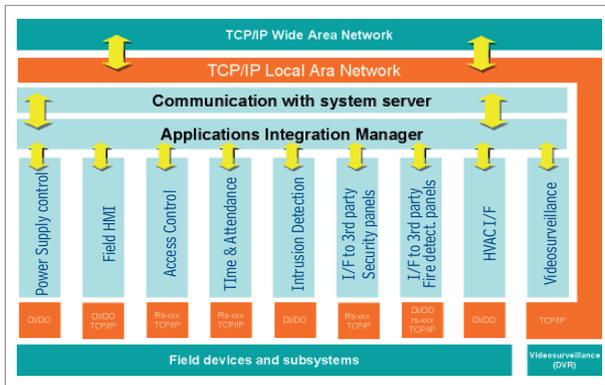
PERFORMANCE INDEPENDENT OF SYSTEM SIZE

Field Processors always ensure excellent response times, regardless of the number of terminals managed by the system.

In a normal, centralised, on-line system, performance declines as the number of access channels to be controlled increases, because the full burden of managing multi-terminal controls and the correlation of alarms with reactions falls to the server. Each Field Processor, however, has charge of a definite number of devices and sub-systems. If the system expands, a sufficient number of Field Processors can be added to ensure that performance is kept at the highest level.

FIELD DEVICES

The job of Field Devices is to enable the Field Processors to interact with the "environment". In practice, they are the physical interfaces through which the system detects statuses, identifies users, and controls equipment. Field Processors can therefore manage field processes by means of a series of devices with a high degree of modularity, which enables them to be adapted to a wide range of requirements dictated by applications (access control only, access control + time & attendance, intrusion detection, etc.), the environment (indoor and outdoor installations, modern and historic buildings, etc.), identification technologies (magnetic cards, proximity cards, smart cards and biometric measurements) and detection technologies (volumetric sensors, perimeter sensors, etc.).

PARAMETER	FIELD MANAGER	XPOINT
DIMENSIONS	155x85x55mm (9 DIN units)	130x250x43mm
WEIGHT	430g	950g
POWER SUPPLY	From 8VDC to 14VDC	From $8V_{DC}$ to $14V_{DC}$
POWER CONSUMPTION	From 320mA (CPU 10%) to 650mA (CPU 100%) 1000mA max.	From 320mA (CPU 10%) to 960mA (CPU 100%) 1500mA max.
OPERATING TEMPERATURE	0 ↔ 40℃	0 ↔ 40℃
RELATIVE HUMIDITY	Up to 95% without condensation	Up to 95% without condensation
PROTECTION CLASS	n/a	IP55
PROCESSOR	Geode SC3200 at 266MHz	Geode SC3200 at 266MHz
MAIN MEMORY	64Mbyte DRAM	64Mbyte DRAM
STORAGE MEMORY	64Mbyte CompactFlash (removable)	128 Mbyte CompactFlash (removable)
COMMUNICATIONS INTERFACES	Fast Ethernet 10/100 BaseT 2 RS485 serial bus (FD-BUS/A e FD-BUS/B) Optically isolated RS485 serial bus (FD-BUS B) RS232 serial port (COM1) USB host	Fast Ethernet 10/100 BaseT RS485 serial bus (FD-BUS A) Optically isolated RS485 serial bus (FD-BUS B) RS232 serial port (COM1) USB host Wiegand serial input or Clock&Data
INTERNAL INTERFACES	Connector for type I PCMCIA card (32-bit Cardbus) Connector for type I CompactFlash cartridge Tamper switch for alarm if casing is opened Power supply status monitoring External BGA video (optional) Jumpers (5) for Power Out from FD-BUS/A to FD-BUS/B	Connector for type I PCMCIA card (32-bit Cardbus) Connector for type I CompactFlash cartridge Tamper switch for alarm if casing is opened Power supply status monitoring External BGA video (optional) External PS2 keypad (optional)
USER INTERFACES		240x320 LCD graphics display with 256 colors and CCFL backlight Audio through internal speaker ($1W_{RMS}$) Internal microphone Audio output for external amplifier Joypad with 6 separate multicolored keys, backlit.